

EXHIBIT F

The logo for LITSON, featuring the word "LITSON" in white, uppercase, sans-serif font, followed by a small yellow dot, all on a dark blue rectangular background.

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May 28, 2024

VIA EMAIL

The Honorable Philip Kopczynski
Assistant United States Attorney
Office of the U.S. Attorney
for the Western District of Washington
700 Stewart Street, Suite 5220
Seattle, WA 98101
philip.kopczynski@usdoj.gov

**Re: *United States v. Nevin Shetty*, 2:23-CR-84-TL
Rule 16(b)(1)(C) disclosure: James Angel**

Dear Counsel:

Pursuant to Federal Rule of Criminal Procedure 16(b)(1)(C), the Defendant hereby provides this notice that it intends to call James Angel as a witness to provide testimony under Federal Rules of Evidence 702, 703, and 705. Mr. Angel's qualifications are set forth in the attached curriculum vitae, which includes all publications of his in the previous ten years and a list of all cases in which he has testified as an expert at trial or by deposition. Mr. Angel's opinion is provided in the attached report. While Mr. Angel's testimony depends in large part on what the government presents in its case-in-chief, the testimony summaries and opinions below are all within Mr. Angel's expertise.

The Defendant anticipates that Mr. Angel will provide testimony regarding the following, as further reflected in his attached report:

1. General background on the financial market and investments.

It is anticipated that Mr. Angel's testimony will describe the general structure of financial markets and investments. It is anticipated that his testimony will describe the market valuation of investments. It is anticipated that his testimony will describe the factors investors consider in making investment decisions, including risk perception, and how risk perception differs amongst

different investors.

The basis of his opinions and testimony will be his experience as a professor of finance for 23 years, specializing in market structure and regulation of global financial markets.

2. Hindsight bias in investments.

It is anticipated that Mr. Angel's testimony will describe hindsight bias and how it relates to investments, including TerraLuna/Anchor/UST.

As to this topic, Mr. Angel will base his opinion and testimony on the same information listed in topic 1.

3. Mr. Angel may testify as a rebuttal witness to the government's expert testimony about any aspect of financial markets and investments.

As to this topic, Mr. Angel will base his opinion and testimony on the same information listed in topic 1. The Defendant will supplement a rebuttal disclosure at the appropriate time.

4. Depending on the government's case-in-chief, Mr. Angel may testify about any irregularities in the investigation or manner of enforcement of this case as they relate to the financial market and investments.

As to this topic, Mr. Angel will base his opinion and testimony on the same information listed in topic 1. In addition, for this testimony, he also will rely on the testimony presented in the government's case.

The Defendant reserves the right to supplement this disclosure in accordance with the Federal Rules.

Sincerely,

/s/ J. Alex Little

J. Alex Little

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Expert Report – James Angel

General Market Behavior

Investors consider multiple factors in making investment decisions. These include how much money they have to invest, their investment time horizon, the opportunities available to them, their beliefs about the expected returns and risks of various investments, as well as their risk preferences. More risk averse investors will tend to choose lower risk portfolios.

Financial markets provide the ability to transfer risk away from a party that doesn't want it to someone who does. For example, insurance transfers risk away from the insured to the insurance company. A farmer can get rid of the price risk of his wheat crop by entering into a futures contract to sell his future crop at a fixed price before even planting the wheat. The stock market provides the ability to reduce risk by diversifying a portfolio.

Investors should always be aware of what other people know (or think they know), and this includes their risk preferences. This can provide good opportunities or warn of dangers. As Warren Buffett has been widely quoted, "Be fearful when others are greedy, and greedy when others are fearful."

Market Valuation

The market prices of financial assets are based on the benefits people expect to get from owning those assets. These benefits include expected future dividends and proceeds from eventual sale of the asset. They can also include potential benefits from obtaining control of a corporation.

Different people can have very different views on those benefits. For example, a shareholder may value a company based on expected dividends from its existing business, while another corporation might view the business as a potential merger candidate that would actually increase the joint profits of the combined company.

Each person evaluates investments based on their own experience, information, and skill set. For example, a person who works in a particular industry and who knows that it is poised for substantial growth may view an

investment in that industry as extremely advisable and low in risk, while someone unfamiliar with the industry may view it as too risky.

Investment Risk and Return

Risk is the possibility of losing money on an investment. It can be measured in many ways, including statistical methods such as the standard deviation of returns. The simple fact of life is that people don't like to lose money. Losing money can cause severe emotional anxiety as well as severe hardship.

In general, investors expect a higher return in exchange for higher risk. (However, not all risks are necessarily priced the same way. Academics are still debating exactly how different risk factors are priced differently.)

There is no such thing as a truly "no-risk" asset. While textbooks may label a U.S. Treasury bond as "risk-free," that is an academic oversimplification. Even "safe" government bonds may lose value if a government defaults. Even if there is no default, the purchasing power of money can lose value due to inflation.

Longer-term bonds, even "safe" ones issued by the U.S. Treasury, suffer from interest-rate risk. Since the bonds pay a fixed amount of money, the value of the bond will fall when interest rates go up. If a bondholder needs to sell a bond prior to maturity, the bondholder may realize a loss if the market value of the bond has gone down due to a rise in market interest rates.

Investments with no risk tend to have a very low or even negative return after inflation. In recent years, the yields on short-term U.S. Treasury bills were close to zero. Yields on government bonds in Europe and Japan were actually negative, as investors were willing in effect to pay a storage fee for a safe place for their money.

Differing Risk Perceptions

Here are some examples of how even low-risk investments carry some degrees of risk:

- Inflation risk: The purchasing power of money invested in short-term Treasury bills has often declined as the yield on the T-Bills has been less than inflation.
- Theft and cyber risk. Even if an asset itself is safe, physical cash can be stolen and electronically held assets can be hacked.
- In 2008, IndyMac bank failed. Depositors lost 50% of their deposits above the FDIC insurance limit.
- Tax risk. Even if the asset pays off as promised, the tax treatment may change resulting in a lower after-tax return.
- In 2023, Silicon Valley Bank failed. Although depositors eventually got their money, it was frozen and inaccessible for a period of time.
- Many employees in Portland General Electric purchased shares in the company through payroll deduction, believing that the regulated electric utility was a safe investment. Many had the bulk of their life savings in Portland General Electric stock. Enron took over the company and the stock became Enron stock. When Enron went bankrupt, the stock became worthless.
- In 2019, a high-class fully-leased downtown office building looked like a safe investment. After the pandemic shift to remote work, investors in many such buildings have suffered serious losses.

Attitudes toward risk are based on both objective and emotional considerations. A wealthy person with a steady income from a secure job can objectively afford to take on considerable financial risk. A poorer person with an unstable income will have a lower risk tolerance as a financial loss may make them homeless.

Emotions also affect how people invest. Some people experience extreme anxiety at the slightest stock market fluctuation and thus stay away from investments that might otherwise make sense for them. Others aren't bothered by fluctuations and can emotionally tolerate very risky investments.

Perceptions of risk also affect how people invest. These may be based on personal or family experience. Someone whose family lost everything in the stock market crash of 1929 might view stocks as extremely risky while someone who grew up in a bull market might view stocks as less risky. Someone whose family fled from a country where the government confiscated their assets may shun assets that could be easily seized.

Hindsight Bias

Hindsight bias is believing that, after finding out what happened, one could have predicted it in advance based only on knowledge available at the time. This is a pretty common human characteristic. One may think that what happened was inevitable, or that it could have been easily predicted.

Often investors miss red flags that are hidden in plain sight. For example, Enron was one of the most valuable companies in the US, with a market capitalization (value of its stock) of over \$60 billion. Its financial statements contained many glaring red flags hinting at its problems, but these were ignored by many of the largest institutional investors in the country.

When investors lose money, it is human nature to blame someone other than themselves. This often leads to court cases or FINRA arbitrations seeking redress for an investment that has gone sour.

Market Sentiment

At times investors are more optimistic or pessimistic than at other times. Indeed, Warren Buffett famously quoted Benjamin Graham as describing the market as a manic-depressive friend who gyrated between being overly optimistic and overly pessimistic.

One should be careful not to be carried away by the moods of others. Investing at times when others are over optimistic is a good way to pay too much for an investment. Likewise, selling when the market is in a panic (such as in the financial crisis 2009 or the pandemic in 2020) misses out on good opportunities.

There are many numerical indicators of market sentiment, including the VIX (Volatility Index, based on implied volatilities from option prices), and

various technical indicators such as relative strength (based on recent price movements) and moving averages.

Investors often perceive risk in terms of recent price movements and perceive (perhaps incorrectly) less risk on an asset that has gone up significantly.

Psychological Factors in Finance

We are humans, and we humans allow a variety of emotions and psychological quirks to affect our behavior, including our investing behavior. It is common to refer to these as “behavioral biases.” One of the most common is overconfidence – we think we are better than we really are. In investing, this means that we tend to believe that our opinions and forecasts are more accurate than they really are. We tend to believe that we can forecast the movement of markets or lack thereof better than others, despite the fact that numerous studies of professional managers show that such talent is extremely rare.

It is an old saying that “Fear and greed run the market.” When prices are rising, the feeling of euphoria can be contagious. Those who were lucky and bought at the right time think they are geniuses and then buy more. At other times, investors see other’s selling and rush to sell at the same time out of fear.

Confirmation bias is the tendency to look for and believe information that confirms a previously held opinion. This is a natural human tendency, as it feels good to have a previous opinion confirmed. For example, an investor may decide to buy a particular stock. Then the investor looks for information confirming that the company will do well and ignores any contradictory evidence. This can obviously lead to some bad investment outcomes. (More disciplined investors consciously seek out evidence that would disprove their opinions.)

Impact of News and Information on the Market

Market participants are constantly digesting the latest information to update their beliefs. Indeed, they are constantly searching and paying for better and faster sources of information. Some investors are willing to pay large sums of money for faster data feeds so that they can trade before others.

Markets are inherently forward looking, as investors' willingness to pay is based on their expectations about the future. Those expectations can change dramatically when news comes in that changes those expectations.

Examples of how unforeseen events have drastically changed the advisability of certain investments:

- The pandemic led to a massive drop in the demand for office space in major cities.
- Natural disasters such as floods and earthquakes have caused major drops in the value of some investments. The Kobe earthquake in 1995 led to the collapse of Barings Bank. (A rogue trader at Barings, Nick Leeson, had made a huge bet that went bad due to the earthquake.)
- Stock prices can and do move violently in response to news. For example, it is not uncommon for the stock of a biotech firm to plummet if there is bad news about the results of a clinical trial. For example, on May 10, 2024, the stock of MacroGenics (MGNX) dropped 77% following bad news on a clinical trial.

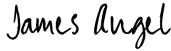
Historical Context

Although the warning "Past performance is no guarantee of future performance" is repeated like a mantra, investors often think that past returns can signal future performance. It is well known that mutual fund investors on average experience lower returns than the funds themselves due to a tendency to chase performance: They buy funds after they have gone up and sell them after they have gone down.

It is easy (and fun) to poke fun at the many previous market bubbles. We can look at the Dutch Tulip Craze, or the company making square bullets in the South Seas Bubble, or some dodgy dot-com from the internet boom, and think that we could never be so stupid. Yet these bubbles recur with distressing regularity and many intelligent people get caught up in them. As humans we are social animals who pay attention to what others are doing, and we can easily get caught up in the excitement of the times. Increasing prices make us overconfidently think we are smart when we have just been temporarily lucky.

Confirmation bias blinds us to facts that would contradict our investment thesis.

The brilliant Isaac Newton, who developed calculus and worked out the law of gravity, got caught up in the South Seas bubble and lost the equivalent of millions of today's dollars. Likewise, Albert Einstein lost a significant fraction of his Nobel Prize money in the stock market crash of 1929. Mark Twain lost a large fraction of his fortune on an investment that went sour. Arnold Schwarzenegger lost a significant amount of money on his investment in Planet Hollywood which later went bankrupt. All these examples confirm what the studies show: Even the most intelligent people can make investments that don't pan out.

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James Angel
May 27, 2024

CURRICULUM VITAE

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Research Focus

I study financial market structure and financial technology (fintech) and the associated regulatory issues of traditional and crypto markets. My topics of interest include the microstructure of trading, short selling, payments, and the regulation and industrial organization of global financial markets. I have visited over 85 licensed stock and derivative exchanges around the world.

Education

Harvard Business School
Making Corporate Boards More Effective, 2013

University of California at Berkeley
Walter A. Haas School of Business
Ph.D. in Finance, 1991
Dissertation advisor: Albert S. “Pete” Kyle

Harvard Business School, M.B.A. 1985

California Institute of Technology, B.S. 1981
Double major: Engineering and Applied Science, Economics

Sewickley Academy, Sewickley, PA, 1977

Work Experience

1986-1991	BARRA (later part of Morgan Stanley), Berkeley, CA	Consultant
1985	The Analysis Group, Belmont MA and Sausalito, CA	Consultant
1981-1983	Pacific Gas and Electric, San Francisco CA	Rate Engineer I

Academic Appointments

Wharton School, University of Pennsylvania

Visiting Associate Professor, 2012-2014

Shanghai Stock Exchange

Visiting Economist, 2004

National Association of Securities Dealers (predecessor to FINRA)

Visiting Academic Fellow, 1999-2000

Georgetown University McDonough School of Business

Associate Professor of Finance 1998-

Assistant Professor of Finance 1991-1998

University of California at Berkeley

Graduate Student Instructor

Research Assistant to Professors Pete Kyle and David Modest

Harvard Business School

Research Assistant to Professor Richard Meyer, 1984

Research Assistant to Professor Regina Herzlinger, 1985

California Institute of Technology

Summer Undergraduate Research Fellow, 1979 and 1980

Research Assistant to Professor Charles Plott 1979-1981

Boards

Reach for Uganda (www.reachforuganda.org), Treasurer

Edga Exchange Inc. (DirectEdge Stock Exchange) Board of Directors

Member 2010-2014

Edgx Exchange Inc. (Direct Edge Stock Exchange) Board of Directors

Member 2010-2014

Quadrisev Academic Advisory Council

Member 2009 - 2015

Nasdaq Economic Advisory Board

Member – 1998-2001

Chair 2000-2001

Nasdaq OTC Bulletin Board Advisory Committee

Member, 2001 – 2004

National Service

Federal Reserve Faster Payments Task Force and Governance Formation Framework Team

Member, 2015-2018

Journal Articles

Nonstandard Errors, forthcoming *Journal of Finance*, joint work with Albert J. Menkveld et al. (**A *Financial Times* list publication for ranking business schools**)

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When Finance Meets Physics: The Impact of the Speed of Light on Financial Markets and Their Regulation, *The Financial Review* 49, 2014, 271–281.

Ethical Standards for Stockbrokers: Fiduciary or Suitability? (joint work with Douglas M. McCabe), *Journal of Business Ethics* (**A *Financial Times* list publication for ranking business schools**) 115, 2013, 183-193.

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Equity Trading in the 21st Century (joint work with Chester Spatt and Larry Harris), lead article in the first issue of the *Quarterly Journal of Finance* 1, 2011, 1-53.

The Ethics of Speculation, (joint work with Douglas M. McCabe), *Journal of Business Ethics* (**A *Financial Times* list publication for ranking business schools**) 90(3,) 2010 (Winner of the Primeaux Prize for the Best Paper at the Fifteenth Annual International Conference Promoting Business Ethics, New York, 2008)

In Praise of Mark to Management: The Need for Three-Dimensional Accounting, *Journal of Law, Economics, and Policy* 6, 2010 153

Short-Selling and the Weekend Effect in NASDAQ Stock Returns, (joint work with Stephen E. Christophe and Michael G. Ferri, *Financial Review*, 2009, 44 1, 31-57. (Selected as one of the two outstanding publications in *Financial Review* in 2009.)

The Business Ethics of Short Selling and Naked Short Selling, (joint work with Douglas M. McCabe), *Journal of Business Ethics* (**A *Financial Times* list publication for ranking business schools**) 85(1) 2009

The Ethics of Managerial Compensation: The Case of Executive Stock Options (joint work with Douglas M. McCabe), *Journal of Business Ethics* (**A *Financial Times* list publication for ranking business schools**) 78(1-2), 2007, 225-235.

Should Owners of NASDAQ Stocks Fear Short-Selling? (joint work with Stephen E. Christophe and Michael G. Ferri) Christophe, (2007) *Journal of Portfolio Management*, Winter 2007.

Short Selling Prior to Earnings Announcements (joint work with Stephen E. Christophe, and Michael G. Ferri), *Journal of Finance* (A **Financial Times** list publication for ranking business schools) 59 (4), August 2004.

When-Issued Shares, Small Trades, and the Variance of Returns Around Stock Splits (joint work with Raymond M. Brooks and Prem G. Mathew), *Journal of Financial Research* 27(3), Fall 2004.

A Close Look at Short Selling on the Nasdaq Market, (joint work with Stephen E. Christophe, and Michael G. Ferri), *Financial Analysts Journal* 59 (6) November/December, 2003.

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Does Ethical Investing Impose a Cost upon the Firm? A Theoretical Perspective (joint work with Pietra Rivoli), *Journal of Investing* 6 (4), 57-61, Winter 1997.

A New Trade Implementation and Portfolio Management Tool for Institutional Investors: Exchange-Traded Stock Options, *Derivatives Quarterly* 4(2), 26-35, Winter 1997. (Excerpted in *CFA Digest*, 36-37, Summer 1998.)

Reducing the Market Impact of Large Stock Trades (joint work with Gary L. Gastineau and Clifford J. Weber), *Journal of Portfolio Management* 24 (1), 69-76, Fall 1997.

Using Exchange-Traded Equity FLEX Put Options in Corporate Stock Repurchase Programs (joint work with Gary L. Gastineau and Clifford J. Weber), *Journal of Applied Corporate Finance* 10 (1), 109-114, Spring 1997.

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Implications of Chaos Theory for Portfolio Management, *Journal of Investing* 3 (2), 30-35, Summer 1994.

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Patents

Methods and systems for directing and executing certified trading interests, (co-invented with Henri Waelbroeck, Fred J. Federspiel), U.S. Patent Number 8,775,298, issued July 8, 2014

Methods and systems for directing and executing certified trading interests, (co-invented with Henri Waelbroeck, Fred J. Federspiel), U.S. Patent Number 8,266,045, issued September 11, 2012

Method for directing and executing certified trading interests, (co-invented with Henri Waelbroeck, Fred J. Federspiel), U.S. Patent Number 8,041,628, issued October 18, 2011

Method for directing and executing certified trading interests, (co-invented with Henri Waelbroeck, Fred J. Federspiel), U.S. Patent Number 8,040,138, issued August 30, 2011

Method for directing and executing certified trading interests, (co-invented with Henri Waelbroeck, Fred J. Federspiel), U.S. Patent Number 7,917,425, issued March 29, 2011

Method for directing and executing certified trading interests, (co-invented with Henri Waelbroeck, Fred J. Federspiel), U.S. Patent Number 7,908,206, issued March 15, 2011

Method for directing and executing certified trading interests, (co-invented with Henri Waelbroeck, Fred J. Federspiel), U.S. Patent Number 7,908,205, issued March 15, 2011

Method for directing and executing certified trading interests, (co-invented with Henri Waelbroeck, Fred J. Federspiel), U.S. Patent Number 7,877,318 issued January 25, 2011

Method for directing and executing certified trading interests, (co-invented with Henri Waelbroeck, Fred J. Federspiel), U.S. Patent Number 7,865,425 issued January 4, 2011

Method for directing and executing certified trading interests, (co-invented with Henri Waelbroeck, Fred J. Federspiel), U.S. Patent Number 7,814,000, issued October 12, 2010

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Book Chapters

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Does Ethical Investing Impose a Cost upon the Firm? A Theoretical Perspective (joint work with Pietra Rivoli), *The Investment Research Guide to Socially Responsible Investing*, Brian R. Bruce Editor, Published by The Colloquium on Socially Responsible Investing, 1998. Distributed through Investment Research Forums, Plano TX.

Flexible Friends (joint work with Gary L. Gastineau and Clifford J. Weber). *Breaking Down the Barriers*, Risk Publications.

Selected Other Publications

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Healthcare spending: the elephant in the tax reform room. *The Hill*, June 22, 2017, <http://thehill.com/blogs/pundits-blog/healthcare/339040-the-elephant-in-the-tax-reform-room-health-spending>

The CHOICE Act is just Dodd-Frank 2.0. We can do better. *The Hill*, May 16, 2017, <http://thehill.com/blogs/pundits-blog/finance/333665-the-choice-act-is-just-dodd-frank-20-we-can-do-better>

Approving bitcoin ETFs will lead investors to slaughter. March 7, 2017, <http://thehill.com/blogs/pundits-blog/finance/322695-approving-bitcoin-etfs-will-lead-investors-to-slaughter>

SEC inaction led to ongoing fiduciary fiasco. *The Hill*, February 7, 2017, <http://thehill.com/blogs/pundits-blog/finance/318279-fiduciary-fiasco-stems-from-too-many-cooks-in-the-regulatory>

Where Bitcoin boosters are getting it wrong. CNET News, January 23, 2014, http://news.cnet.com/8301-11386_3-57617636-76/where-bitcoin-boosters-are-getting-it-wrong/

Don't get bitten by Bitcoins, CNN.com, April 12, 2013, <http://www.cnn.com/2013/04/11/opinion/angel-bitcoin-currency/>

Walk, don't run, to money market reform, *Washington Times*, August 23, 2012.

Impact of special relativity on securities regulation, United Kingdom Foresight Project: The future of computer trading in financial markets, 2011

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An Investor's Guide to Placing Stock Orders, *American Association of Individual Investors Journal*, April 1993

Center for Nutritional Research, Harvard Business School Case 0-185-145 with Joyce Lallman, 1985

Amicus Briefs

Grayscale Investments LLC v. Securities and Exchange Commission, 2023, joint with Investor Choice Advocates Network, et al. United States Court of Appeals for the DC Circuit, USCA #22-1142.

Mangrove Partners Master Fund, LTD v. Overstock.com Inc, 2022, US Court of Appeals 10th Circuit, #21-4126

Universities Superannuation Scheme Limited, et al. v Petroleo Brasileiro S.A. Petrobras, 2016, US Court of Appeal, 2nd Circuit, #16-1914-cv

International Securities Exchange, LLC v Chicago Board Options Exchange, 2013, US Supreme Court #12-940

Selected Comment Letters on Regulatory Matters

Date	Topic	URL
5/13/2024	24X Exchange	
4/17/2024	Miax Options	https://www.sec.gov/comments/10-240/10240-459331-1188256.pdf
4/5/2024	Ethereum options	https://www.sec.gov/comments/sr-nysearca-2023-70/srnysearca202370
4/5/2024	24X Exchange	https://www.sec.gov/comments/10-242/10242-455511-1167614.pdf
3/10/2024	Bitcoin ETF Options	https://www.sec.gov/comments/sr-nyseamer-2024-10/srnyseamer2024
12/28/2023	DOL Fiduciary Rule	https://www.dol.gov/sites/dolgov/files/ebsa/laws-and-regulations/rules
12/12/2023	Bitcoin ETFs	https://www.sec.gov/comments/sr-nysearca-2021-90/srnysearca202190
11/25/2023	Junk fees	https://www.regulations.gov/comment/FTC-2023-0064-1294
10/10/23	Predictive data analytics	https://www.sec.gov/comments/s7-12-23/s71223-271599-654542.pdf
8/11/2023	Bitcoin ETFs	https://www.sec.gov/comments/sr-cboebzx-2023-038/srboebzx20230
3/31/2023	Market structure proposals	https://www.sec.gov/comments/s7-31-22/s73122-333832.htm
3/31/2023	Disclosure of order execution information	https://www.sec.gov/comments/s7-31-22/s73122-333832.htm
3/31/2023	Regulation NMS tick size	https://www.sec.gov/comments/s7-31-22/s73122-333832.htm
3/31/2023	Order competition rule	https://www.sec.gov/comments/s7-31-22/s73122-333832.htm
3/31/2023	Best execution	https://www.sec.gov/comments/s7-31-22/s73122-333832.htm
1/16/2023	24X Exchange	https://www.sec.gov/comments/10-239/10239-20155106-323422.pdf
1/8/2023	Preferred stock repurchases	https://www.regulations.gov/comment/IRS-2023-0004-0002
9/22/2022	KalshiEX political contracts	https://comments.cftc.gov/Handlers/PdfHandler.ashx?id=33684
5/10/2022	FTX	https://comments.cftc.gov/Handlers/PdfHandler.ashx?id=33580

5/6/2022	Complex financial products	https://www.finra.org/sites/default/files/NoticeComment/James%20J%2008%20Complex%20Financial%20Products.pdf
5/6/2022	Grayscale Bitcoin Trust	https://www.sec.gov/comments/sr-nysearca-2021-90/srnysearca202190
4/17/2022	Grayscale Bitcoin Trust	https://www.sec.gov/comments/sr-nysearca-2021-90/srnysearca202190
1/4/2022	Securities lending transparency	https://www.sec.gov/comments/s7-18-21/s71821-20111123-264777.pdf
12/23/2021	NSCC Securities Financing Transaction Clearing	https://www.sec.gov/comments/sr-nsc-2021-010/srnsc2021010-20110256-
12/21/2021	Market data pricing	https://www.sec.gov/comments/s7-24-89/s72489-20110185-264449.pdf
9/30/2021	Short interest reporting	https://www.finra.org/sites/default/files/NoticeComment/Dr.%20James%20J.%20Comments%20by%20Professor%20James%20J.%20Angel%20CFP%2019%20Short%20Interest%20Reporting_.pdf
9/30/2021	Digital engagement practices	https://www.sec.gov/comments/s7-10-21/s71021-9316492-260087.pdf
7/16/2021	Cross-border payments	https://www.fsb.org/wp-content/uploads/Professor-James-J-Angel.pdf
6/28/2021	Access to FedNow	https://www.federalreserve.gov/SECRS/2021/July/20210716/OP-1747/OP-1747
5/18/2021	Diversity and inclusion in the broker-dealer industry	https://www.finra.org/sites/default/files/NoticeComment/Georgetown%20Univ.%20Comments%20by%20Professor%20James%20J.%20Angel%20CFP%2019%20Short%20Interest%20Reporting_.pdf
1/26/2021	Review of proposed RSBIX NFL futures contracts	https://comments.cftc.gov/Handlers/PdfHandler.ashx?id=31483
1/6/2021	Tailored shareholder reports	https://www.sec.gov/comments/s7-09-20/s70920-8210195-227544.pdf
1/4/2021	Requirements for digital assets	https://downloads.regulations.gov/FINCEN-2020-0020-6550/attachment_1.pdf
9/29/2020	Reporting threshold for institutional investors	https://www.sec.gov/comments/s7-08-20/s70820-7860404-223966.pdf
6/12/2020	Market data infrastructure	https://www.sec.gov/comments/s7-03-20/s70320-7308729-218171.pdf
3/3/2020	Definition of accredited investor	https://www.sec.gov/comments/s7-25-19/s72519-6898005-211087.pdf
2/24/2020	Use of derivatives by investment companies	https://www.sec.gov/comments/s7-24-15/s72415-6856131-210491.pdf
1/24/2020	OTC disclosure	https://www.sec.gov/comments/s7-14-19/s71419-6692704-205949.pdf
12/15/2019	US Bitcoin and Treasury Trust	https://www.sec.gov/comments/sr-nysearca-2019-39/srnysearca201939-6545
11/7/2019	Interbank settlement of faster payments	https://www.federalreserve.gov/SECRS/2018/December/20181228/OP-1625
10/30/2019	Fee payment modernization	https://www.sec.gov/comments/s7-20-19/s72019-6371925-196518.pdf
9/4/2019	Fixed-income pilot	https://www.finra.org/sites/default/files/2019-09/19-12_JamesJAngel_Comm
3/22/2019	Quarterly earnings	https://www.sec.gov/comments/s7-26-18/s72618-5180415-183547.pdf
10/24/2018	Roundtable on market data	https://www.sec.gov/comments/4-729/4729-4560075-176207.pdf
10/1/2018	ETF rules	https://www.sec.gov/comments/s7-15-18/s71518-4467037-175796.pdf
8/3/2018	Transaction fee pilot	https://www.sec.gov/comments/s7-05-18/s70518-4171854-172333.pdf
5/25/2018	Transaction fee pilot	https://www.sec.gov/comments/s7-05-18/s70518-3718525-162501.pdf

8/7/2018	Regulation Best Interest	https://www.sec.gov/comments/s7-07-18/s70718-4186553-172753.pdf
9/11/2017	Grayscale Bitcoin Investment Trust	https://www.sec.gov/comments/sr-nysearca-2017-06/nysearca201706-24351
7/30/2017	BATS market close	https://www.sec.gov/comments/sr-batsbzx-2017-34/batsbzx201734-2154851
7/28/2017	NYSE listing requirements	https://www.sec.gov/comments/sr-nyse-2017-12/nyse201712-2150650-15774
7/10/2017	Force shares 4X ETFs	https://www.sec.gov/comments/sr-nysearca-2016-120/nysearca2016120-184
7/10/2017	Managed portfolio shares	https://www.sec.gov/comments/sr-batsbzx-2017-30/batsbzx201730-1843677
5/25/2017	Managed portfolio shares Royce ETFs	https://www.sec.gov/comments/sr-nysearca-2017-36/nysearca201736-17741
3/7/2017	MSRB Minimum denomination rules	https://www.sec.gov/comments/sr-msrb-2017-01/msrb201701-1621385-1371
10/16/2016	CHX Speed bump	https://www.sec.gov/comments/sr-chx-2016-16/chx201616-11.pdf
8/26/2016	Order handling disclosure	https://www.sec.gov/comments/s7-14-16/s71416-1.pdf
6/9/2016	Precidian ETF	https://www.sec.gov/comments/sr-nysearca-2016-08/nysearca201608-6.pdf
3/28/2016	Use of derivatives by investment companies	https://www.sec.gov/comments/s7-24-15/s72415-170.pdf
12/5/2015	Trade reports for ETPs	https://www.sec.gov/comments/sr-nysearca-2015-104/nysearca201510
12/5/2015	Short interest reporting by large institutions	https://www.sec.gov/comments/4-689/4689-2.pdf
12/5/2015	IEX Exchange application	https://www.sec.gov/comments/10-222/10222-35.pdf
8/17/2015	Concept Release on ETPs	https://www.sec.gov/comments/s7-11-15/s71115-29.pdf
12/22/2014	Tick size pilot	https://www.sec.gov/comments/4-657/4657-86.pdf
7/1/2014	Crowdfunding	https://www.sec.gov/comments/s7-09-13/s70913-323.pdf
6/20/2014	JOBS Act	http://www.sec.gov/comments/jobs-title-v/jobstitlev-16.pdf
5/7/2014	W2007 Grace	https://www.sec.gov/comments/81-939/81939-41.pdf
2/5/2014	Crowdfunding	https://www.sec.gov/comments/s7-09-13/s70913-268.pdf
1/13/2014	Impact of speed of light on securities regulation	https://www.sec.gov/comments/s7-02-10/s70210-410.pdf
11/22/2013	Pay ratio disclosure	https://www.sec.gov/comments/s7-07-13/s70713-347.pdf
11/5/2013	Comments on OFR Study on Asset Management Industry	https://www.sec.gov/comments/am-1/am1-27.pdf
9/17/2013	Money market fund reform	http://www.sec.gov/comments/s7-03-13/s70313-228.pdf
9/3/2013	W2007 Grace	https://www.sec.gov/comments/81-939/81939-38.pdf
9/3/2013	Lessons learned from Nasdaq glitch	https://www.sec.gov/comments/s7-01-13/s70113-64.pdf
9/3/2013	W2007 Grace	https://www.sec.gov/comments/81-939/81939-38.pdf
7/22/2013	W2007 Grace	https://www.sec.gov/comments/81-939/81939-36.pdf
6/3/2013	Regulation SCI	http://www.sec.gov/comments/s7-01-13/s70113-24.pdf
6/3/2013	W2007 Grace	http://www.sec.gov/comments/81-939/81939-26.pdf

5/14/2013	NYSE Rule 104	https://www.sec.gov/comments/sr-nyse-2013-21/nyse201321-2.pdf
3/22/2013	Political spending	https://www.sec.gov/comments/4-637/4637-1589.pdf
2/6/2013	Money market fund reform	https://www.sec.gov/comments/mms-response/mmsresponse-27.pdf
9/5/2012	Market technology and stability	https://www.sec.gov/comments/4-652/4652-5.pdf
8/23/2012	Limitations on SRO Liability	https://www.sec.gov/comments/sr-nasdaq-2012-090/nasdaq2012090-1
8/19/2012	JOBS Act tick size	https://www.sec.gov/comments/jobs-title-i/tick-size-study/tick-size-stu
8/16/2012	Nasdaq benchmark orders	https://www.sec.gov/comments/sr-nasdaq-2012-059/nasdaq2012059-1
6/8/2012	Scaling disclosure for smaller companies	https://www.sec.gov/news/otherwebcasts/2012/angel_060812.pdf
3/5/2012	NYSE trading floor rules	http://www.sec.gov/comments/sr-nyse-2011-56/nyse201156-5.pdf
11/28/2011	NYSE Dark Pool proposal	https://www.sec.gov/comments/sr-nyse-2011-55/nyse201155-13.pdf
8/26/2011	Broker-dealer reports	https://www.sec.gov/comments/s7-23-11/s72311-17.pdf
8/25/2011	Market-wide circuit breakers	https://www.sec.gov/comments/sr-bats-2011-038/bats2011038-2.pdf
6/24/2011	Limit-up Limit-Down	https://www.sec.gov/comments/4-631/4631-14.pdf
1/16/2011	Fairness in Financial Markets	https://www.sec.gov/comments/s7-02-10/s70210-316.pdf
1/14/2011	BX Venture Exchange	https://www.sec.gov/comments/sr-bx-2010-059/bx2010059-5.pdf
10/20/2010	Proxy voting	https://www.sec.gov/comments/s7-14-10/s71410-210.pdf
9/21/2010	Crowdfunding	https://www.sec.gov/comments/4-605/4605-33.pdf
8/24/2010	Comments on Proxy Voting Concept Release	https://www.sec.gov/comments/s7-14-10/s71410-228.pdf
8/24/2010	Ethical obligations of broker-dealers	https://www.sec.gov/comments/4-606/4606-2822.pdf
8/9/2010	Consolidated Audit Trail (CAT)	https://www.sec.gov/comments/s7-11-10/s71110-51.pdf
6/19/2010	Circuit breakers imposed after Flash Crash	https://www.sec.gov/comments/sr-bats-2010-018/bats2010018-13.pdf
5/11/2010	Flash Crash Warnings	https://www.sec.gov/comments/s7-02-10/s70210-181.pdf
4/30/2010	Equity Market Concept Release	https://www.sec.gov/comments/s7-02-10/s70210-172.pdf
12/18/2009	OTC Quote Proposal from FINRA	https://www.sec.gov/comments/sr-finra-2009-077/finra2009077-5.pdf
9/21/2009	Regulation SHO short sale restriction	https://www.sec.gov/comments/s7-08-09/s70809-4658.pdf
9/20/2009	Securities Lending Round Table	https://www.sec.gov/comments/4-590/4590-37.pdf

5/5/2009	Roundtable on Short Selling	https://www.sec.gov/comments/4-581/4581-2.pdf
12/17/2008	Reg 204T and settlement failures	http://www.sec.gov/comments/s7-30-08/s73008-54.pdf
8/11/2008	Reg SHO, market maker exemption	http://www.sec.gov/comments/s7-19-07/s71907-1306.pdf
8/4/2008	XBRL	https://www.sec.gov/comments/s7-11-08/s71108-87.pdf
7/1/2008	Financial responsibilities of broker dealers	https://www.sec.gov/comments/s7-08-07/s70807-29.pdf
5/17/2008	Naked short selling	http://www.sec.gov/comments/s7-08-08/s70808-401.pdf
5/16/2008	ETF Issuance rules	http://www.sec.gov/comments/s7-07-08/s70708-6.pdf
5/15/2008	Privacy of consumer financial information	https://www.sec.gov/comments/s7-06-08/s70608-94.pdf
2/13/2008	Ticker symbols	https://www.sec.gov/comments/4-534/4534-50.pdf
9/10/2007	Regulation SHO market maker exception	https://www.sec.gov/comments/s7-19-07/s71907-117.pdf
8/16/2007	Stock exchange ticker symbol allocation plan	https://www.sec.gov/comments/4-533/4533-42.pdf
7/15/2007	reporting requirements for smaller reporting companies	https://www.sec.gov/comments/s7-15-07/s71507-11.pdf
5/24/2007	Nasdaq Portal Proposal	https://www.sec.gov/comments/sr-nasdaq-2006-065/nasdaq2006065-1
4/29/2007	Rule changes for securities futures exchanges	https://www.sec.gov/comments/s7-06-07/s70607-2.pdf
2/26/2007	Internal controls over financial reporting	https://www.sec.gov/comments/s7-24-06/s72406-188.pdf
2/14/2007	Rule 105 short sales	https://www.sec.gov/comments/s7-20-06/s72006-7.pdf
2/14/2007	Regulation SHO on short sales	https://www.sec.gov/comments/s7-21-06/s72106-35.pdf
7/18/2006	Regulation SHO	https://www.sec.gov/comments/s7-12-06/s71206-266.pdf
12/5/2005	Late filers	https://www.sec.gov/rules/sro/nyse/nyse200575/jjangel4858.pdf
12/5/2005	Regulation NMS	https://www.sec.gov/rules/proposed/s71004/jjangel012505.pdf
7/5/2005	Proxy voting fees	https://www.sec.gov/comments/sr-nyse-2013-07/nyse201307-43.pdf
1/25/2005	Companies that do not file in a timely manner	https://www.sec.gov/rules/sro/nyse/nyse200449/jjangel012605.pdf
8/16/2004	W2007 Grace	https://www.sec.gov/comments/81-939/81939-43.pdf
8/9/2004	Securities transactions settlement	http://www.sec.gov/rules/concept/s71304/jjangel04092004.pdf
6/30/2004	Regulation NMS	https://www.sec.gov/rules/proposed/s71004/jangel063004.pdf
5/19/2004	Regulation NMS	https://www.sec.gov/rules/proposed/s71004/jjangel051904.pdf
1/3/2004	Regulation SHO	https://www.sec.gov/rules/proposed/s72303/jjangel011004.htm

10/2/1997	Concept release on regulation of exchanges	http://www.sec.gov/rules/concept/s71697/angell.txt
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Working Papers

See Social Science Research Network,
http://papers.ssrn.com/sol3/cf_dev/AbsByAuth.cfm?per_id=35974

Dissertation

Order Placement Strategy of Informed Investors: Limit Orders and Market Impact, Winner of the 1991 FMA/AIIE Completed Dissertation Grant Award

Selected Recent Presentations

“Market Structure,” Harvard Law School, Cambridge MA, December 7, 2017

“Regulated Investment Advisers,” FINRA Institute at Wharton, November 13, 2017

“Foreign Markets,” FINRA Institute at Wharton Institute November 13, 2017

“Limit Up Limit Down,” University of Nantes, France, April 6, 2017

“Recent Developments in Market Structure,” Wharton School of Business, Philadelphia PA, April 12, 2016

“Regulation and Research,” Moderator for session with SEC Commissioner Michael Piwowar and CFTC Commissioner Christopher Giancarlo, Eastern Finance Association, Baltimore MD, April 7, 2016

“Recent Developments in Market Structure,” Harvard Law School, Cambridge MA, April 6, 2016

“ETF Transactions Costs are Higher than You Think,” Investment Revolution Conference, Georgetown University, Washington DC, April 5, 2016.

“Disruptive Financial Technology,” Defense Advanced Research Projects Agency (DARPA), Arlington VA, March 14, 2016

“Capital Markets: Access and Volatility”, 2015 Harvard China Symposium on Building the Financial System of the Twenty-First Century: An Agenda for China and the United States Armonk, NY, September 19, 2015

Discussion of “Shades of Darkness” at Financial Intermediation Research Society (FIRS), Reykjavik, Iceland, May 25, 2015

“The U.S. Crisis in Capital Formation,” presented at Examining the Role of Capital Markets in the Economy, Brookings Institution, Washington DC, April 29, 2015,

“Market Fragility and Market Microstructure: The U.S. Experience” Cambridge INET Microstructure Theory and Application Workshop, University of Cambridge, Cambridge, United Kingdom, March 12, 2015

Congressional Testimony

1997, United States Congress, House Commerce Committee Subcommittee on Finance and Hazardous Materials, April 16, 1997, testimony on HR 1053, The Common Cents Stock Pricing Act of 1997.

2008, United States Congress, Senate Committee on Homeland Security and Governmental Affairs, June 24, 2008, Ending Excessive Speculation in Commodity Markets: Legislative Options, testimony

2010, United States Congress, Senate Subcommittee on Securities, Insurance, and Investment and the Senate Permanent Subcommittee on Investigations, December 8, 2010, “Examining the Efficiency, Stability, and Integrity of the U.S. Capital Markets”

2011, United States Congress, House Financial Services Committee, Oversight and Investigations Subcommittee, March 30, 2011, “The Costs of Implementing the Dodd-Frank Act: Budgetary and Economic”

2013, United States Congress, House Committee on Small Business, April 11, 2013, “JOBS Act Implementation”

2014, United States Congress, U.S. Senate Committee on Banking, Housing, and Urban Affairs, July 8, 2014, The Role of Regulation in Shaping Equity Market Structure and Electronic Trading.

Other Sworn Testimony and Expert Witness Experience

2002, Goel v. Goel, sworn testimony in divorce case on value of insurance residuals

2004, United States v. Jeffrey R. Anderson, District Court for Eastern Virginia, Criminal No. 1:03-CR-444, expert report.

2004, Yorkville Advisors Management, LLC v. The Charter Oak Fire Insurance Company, expert report and deposition.

2005, NASD Arbitration No. 02-04697, Louis Barinaga, testimony.

2010, FINRA Arbitration No. 08-03711, Hendricks Automotive Group, testimony

2011, Keife et al. v. Metropolitan Life Insurance Company, expert report. Case No 3:10-cv00546-LRH-VPC

2012, Board of Trustees for the AFTRA Pension Fund et al. v. JP Morgan Chase NA, Civil Action Number 09-00686, rebuttal report in class certification

2012, Diebold et. al. v. Northern Trust, Case No. 09-cv-1934 (N.D. Ill.), rebuttal report in class certification and deposition.

2012, Comcast Corporation and Subsidiaries v. Commissioner of the Internal Revenue, Dockets 1660-11 and 2204-11. Expert and rebuttal reports.

2015, Owens v. Metropolitan Life Insurance Company, Case No . 2:14-CV-0074-RWS, expert report and deposition.

2015, Louisiana Firefighters' Retirement System et al. v. Northern Trust Investments, N.A., et al. Case No. 09-7203, expert and rebuttal reports in class certification and deposition.

2023, U.S. v. Hampton, expert report

Honors and Awards

Columbia University

Fellow, Law and Economics of Capital Markets Program, 2008-

Fifteenth Annual International Conference Promoting Business Ethics

Primeaux Prize for the Best Paper a(joint with Douglas McCabe), New York, 2008

The Nasdaq Stock Market, Inc.

Chair, Economic Advisory Board, 2000-2001

Association of Investment Management and Research

Chartered Financial Analyst, 2001

National Association of Securities Dealers

Visiting Academic Fellow 1999-2000

Georgetown University

Beta Gamma Sigma, Honorary Faculty Initiate, 1997

School of Business Summer Research Grants 1992, 1993, 1994, 1995, 1996, 1997

Executive Education Teaching Award, 2000

U.C. Berkeley

FMA/AALII Completed Dissertation Grant Award

Outstanding Graduate Student Instructor, 1988

Dean Witter Fellowship

University Fellowship

Harvard Business School:

Second Year Honors

Caltech

Graduation with Honors

National Merit Scholar

Don Shepherd Award

Varsity Football Letterman

Sophomore Class President

Marquis Who's Who in America

Courses Taught at Wharton

Capital Markets

Courses Taught at Georgetown University

Undergraduate

Business Financial Management

Advanced Financial Management

Principles of Investments

Great Books in Finance

Fixed Income Securities

MBA

- Financial Management
- Finance I
- Finance II
- Regulation in Financial Markets
- Financial Crises: Past, Present, and Future
- Financial Markets
- Corporate Finance
- Investment Analysis
- Capital Markets
- Fintech

MS Business Analytics

- Fintech

MA Business and Public Policy

- Global Investments and Operations

MS Finance

- Investments and Fixed Income Securities

Global Executive MBA

- Complex Financial Instruments and Derivatives
- World Equity Markets
- International Finance
- New York Residency

Other Executive Programs

- International Financial Environment
- International Risk Management
- Fixed Income

Custom Executive Programs

- World Bank
- GXS
- Gucci
- ISMA
- ICBC
- Merrill Lynch

Academic Director

FINRA Institute at Georgetown's Certified Regulatory and Compliance Professional (CRCP®) Program.

Ph.D. Committees

Chul Park, *Three Essays in Empirical Financial Economics*, Georgetown University, 1999

Bernard McSherry, *A Private Sector Response to Rising Systematic Risk: The Formation of the New York Stock Exchange Clearing House in 1892*, Pace University, 2012

Julie Schoening, *Empirical Evidence of Knightian Uncertainty in Equity Markets*, Georgetown University, 2016

Jiadi Chen, *Three Essays in Economics of Online Platforms*, Georgetown University, 2021

Shuran Zhang, *Fundamental Information, Non-Fundamental Information, and Price Discrimination*, Brandeis University, 2021

University Service

University Budget Committee (2023-)
 Financial Aid Advisory Committee 2020-
 Committee on Investing and Social Responsibility 2015- 2023
 Main Campus Core Curriculum Committee 2016-
 MSB Appeals Board 2006-2012, 2014-2021, 2023-
 Chair, Faculty Library Advisory Committee, 2007-2012
 MSB Graduate Curriculum Committee 2003- 2006
 Georgetown University Library Committee 2003 - 2012
 Georgetown University Honor Council Investigating Officer 2001 – 2003, 2014-
 Georgetown University Faculty Senate 1998 - 1999
 Georgetown University Academic Excellence Task Force on Financial Management
 1998
 Georgetown University Executive Faculty Steering Committee, 1997 - 1999
 Coordinator of Summer Research in Progress Seminar Series, 1992-1998
 Chair, Faculty Computer Advisory Committee, 1996-1997
 Benefits Advisory Committee, 1995-2004
 Faculty Advisor, Georgetown University Student Investment Fund, 1995-
 Faculty Advisor, Financial Management Association 1993-1996
 MSB Undergraduate Finance Field Advisor 1993-1999
 MSB Technology and Enhancements to Classroom Committee 1993-1994
 MSB Freshman Admissions Committee 1993-1994
 MSB Faculty Computer Advisory Committee, 1992-1993, 1994-5
 Student member of the U.C. Berkeley Economics Department External Review
 Committee, 1988
 Student member of U.C. Berkeley Faculty Graduate Council, 1988-1990
 Graduate Assembly Representative, 1987-1990

Professional Service

Financial Management Association Electronic Publishing Committee Chair, 1998-2001

Referee Activities

Economic Inquiry
Financial Management
Financial Practice and Education
Financial Services Review
Journal of Banking and Finance
Journal of Economics and Business
Journal of Finance
Journal of Financial Markets
Journal of Financial Services Research
Journal of International Money and Finance
Management Science
Review of Financial Studies